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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/566,712	07/28/2006	Yasuharu Kanno	284264US90PCT	9014

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

KIRSCH, ANDREW THOMAS

ART UNIT	PAPER NUMBER
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3781

NOTIFICATION DATE	DELIVERY MODE
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07/08/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/566,712	Applicant(s) KANNO ET AL.	
	Examiner ANDREW T. KIRSCH	Art Unit 3781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-12 and 14-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 13 is/are rejected.
- 7) ☒ Claim(s) 4-12 and 14-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2/1/2006</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: page 20 recites a "truck 2" which appears to be a misspelling of "trunk 2".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. In re claim 1, Applicant recites "A pressure vessel liner comprising a tubular trunk and two head plates for closing respective opposite end openings of the trunk, the liner being made from at least two liner components," which is vague with respect to whether the embodiment is drawn to the three components ("truck and two head plates") or to the embodiment with at least two.
5. For the purposes of examination, the three component embodiment will be interpreted as that which is intended.
6. In re claim 1, applicant also recites wherein "the liner components correspond to each other in the position of the reinforcing wall." It is unclear what is meant by components to "correspond to each other."

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7. For the purposes of examination, it is interpreted that to “correspond to each other” means a level of relative similarity in form between any number of complimentary portions, meaning that the orientation of the reinforcing walls are the same between the liner components and the trunk.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent No. 5,564,587 (Falk et al. hereinafter).

10. In re claim 1, with reference to Fig. 7 below, Falk et al. discloses: A pressure vessel liner (1) comprising a tubular trunk (4) and two head plates (2, 3) for closing respective opposite end openings of the trunk (4), the liner being made from at least two liner components so shaped as to be obtained by dividing the trunk (4) with respect to the longitudinal direction thereof, by joining the components, each of the liner components being fixedly provided inside thereof with a reinforcing wall (13, 14), the liner components corresponding to each other in the position of the reinforcing wall (complimenting threads), the reinforcing walls of adjacent pair of liner components being joined to each other.

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11. In re claim 2, with reference to the Fig. above, Falk et al. discloses the claimed invention including one which is made from a first liner component comprising a tubular body (4) having opposite open ends and providing the trunk, and two second liner components (2, 3) joined to respective opposite ends of the first liner component and providing the respective head plates, the first liner component (4) being fixedly provided inside thereof with a reinforcing wall (13) extending longitudinally thereof and dividing the inside thereof into a plurality of spaces having opposite open ends, each of the second liner components (2, 3) being fixedly provided inside thereof with a reinforcing wall (14) corresponding to the reinforcing wall (13) of the first liner component (4) in position and dividing the inside thereof into a plurality of spaces each having one open end, the reinforcing wall (13) of the first liner component being joined to the reinforcing wall (14) of each second liner component (2, 3).

12. In re claim 3, with reference to the Fig. above, Falk et al. discloses the claimed invention including which is made from a first liner component in the form of a bottomed tubular body (2, 4) open at one end and closed at the other end and providing the trunk and one of the head plates, and a second liner component (3) joined to the open end of the first liner component (2, 4) and providing the other head plate, the first liner component (2, 4) being fixedly provided inside thereof with a reinforcing wall (13) extending longitudinally thereof and dividing the inside thereof into a plurality of spaces each having one open end, the second liner component (3) being fixedly provided inside thereof with a reinforcing wall (14) corresponding to the reinforcing wall of the first liner component (2, 4) in position and dividing the inside thereof into a plurality of spaces

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each having one open end, the reinforcing wall (13) of the first liner component (2, 4) being joined to the reinforcing wall (14) of the second liner component (3) (by threads).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

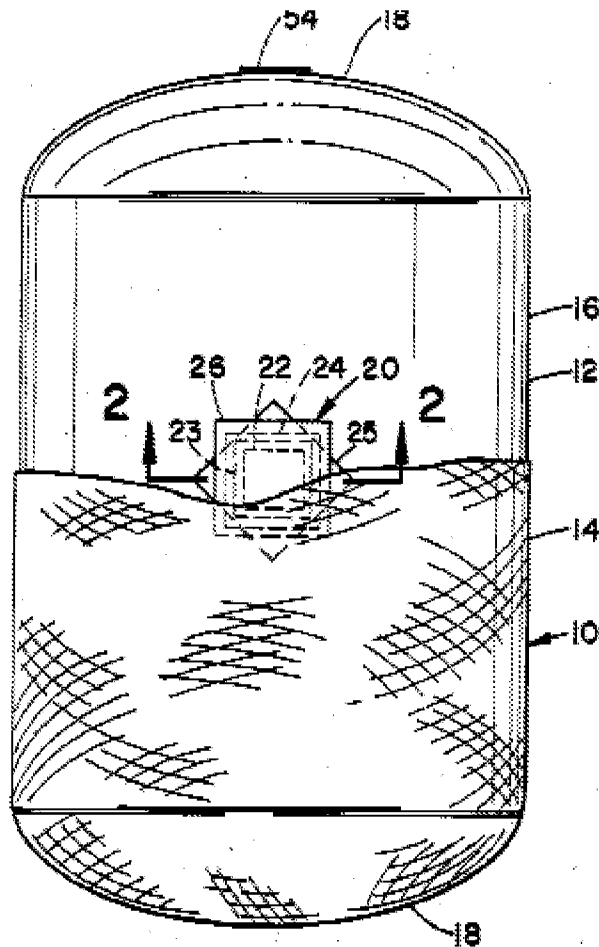
1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Falk et al. as applied to claim 1 above, and further in view of U.S. Patent No. 4,614,279 (Toth et al. hereinafter).

16. In re claim 13, with reference to the Figs. above, Falk et al. fails to disclose wherein the liner is covered with a fiber reinforced resin layer over an outer peripheral surface thereof.

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17. However, with reference to Fig. 1 below, Toth et al. discloses a liner for a vessel wherein the liner (12) is covered with a fiber reinforced resin layer (14) over an outer peripheral surface thereof (columns 3-4, lines 64-3).

**FIG. 1**

18. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have combined the pressure vessel liner of Falk et al. with the fiber reinforced covering of Toth et al. for the purposes of further strengthening the outer surface of the vessel against unwanted expansion under pressure.

Allowable Subject Matter

19. Claims 4-20 are allowed.
20. Claims 4-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
21. The following is an examiner's statement of reasons for allowance: the claims are drawn a more specific embodiment in which the reinforcing walls include a plurality of walls in a different form and orientation which are attached by furrows and other variations of a sliding groove, making the walls and integral attachment point of the liner components, whereas Falk et al. only discloses reinforcing walls which are joined to another in a single location and by means of a helical thread.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 6,179,154 to Spicola et al. discloses an insert for

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an opening in a composite material vessel with a furrow formed in an outer wall. U.S. Patent No. 5,704,512 to Falk et al. discloses a vessel in which grooves formed in each of a plurality of reinforcing walls create only a rotational catch feature for an end piece to attach to.

23. Applicant is duly reminded that a complete response must satisfy the requirements of 37 C.F. R. 1.111, including: "The reply must present arguments pointing out the specific distinctions believed to render the claims, including any newly presented claims, patentable over any applied references. A general allegation that the claims "define a patentable invention" without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section. Moreover, "The prompt development of a clear Issue requires that the replies of the applicant meet the objections to and rejections of the claims." Applicant should also specifically point out the support for any amendments made to the disclosure. See MPEP 2163.06 II(A), MPEP 2163.06 and MPEP 714.02. The "disclosure" includes the claims, the specification and the drawings.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW T. KIRSCH whose telephone number is (571)270-5723. The examiner can normally be reached on M-F, 8am-5pm, Off alt. Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew T. Kirsch/

Examiner, Art Unit 3781

/Anthony D Stashick/
Supervisory Patent Examiner, Art
Unit 3781